2.4.4.5.4.9 Verification of "NAC_P" Field Encoding (§2.2.4.5.4.9)

Purpose/Introduction:

The Navigation Accuracy Category for Position ("NAC_P") field is a 4-bit (bits 1 through bit 4 of byte 26) field used for applications to determine if the reported State Vector has sufficient position accuracy for the intended use. The encoding of the "NAC_P" field **shall** be as indicated in Table 2-45. The value of the NAC_P parameter **shall** be the highest value in Table 2-45 consistent with the NAC_P Input with the exception that if the NAC_P Input is consistent with a value of "10" or "11" and the ADS-B equipment does not support the timing requirements for the Precision condition (§2.2.7.2.2), a NAC_P value of "9" **shall** be transmitted.

If the "NAC_P" field is "unavailable" for the "Data Lifetime" value listed for this input in Table 2-98, then the "NAC_P" field **shall** default to a value of ALL ZEROs.

Measurement Procedure:

Step 1: Establish Initial Conditions

Configure the ADS-B/UAT Transmitting System to broadcast Long ADS-B Messages by providing NAC_P data at the nominal update rate. Provide the data externally at the interface to the ADS-B system.

Set the ADS-B Transmitting Subsystem to transmit ADS-B Message Payload Type 1 or Type 3 according to the capability of the UAT equipage class.

Step 2: "NAC_P" Encoding (§2.2.4.5.4.9)

Verify that for each "NAC_P" parameter input condition that is specified by the EPU and VEPU value in Table 2-45, that the system generates UAT Messages with the "NAC_P" subfield set equal to the corresponding binary coding value shown in Table 2-45. If the ADS-B equipment does not support the timing requirements for the precision condition (§2.2.7.2.2), then verify that the NAC_P subfield in the transmitted UAT Messages is equal to "9," when the test cases are being run with NAC_P input data that is provided to the ADS-B Transmitting Subsystem that is consistent with the values of "10" or "11."

Step 3: "NAC_P" Encoding – Data Lifetime

Discontinue providing update of NAC_P data. After 60 seconds, verify that "NAC_P" subfield in the ADS-B Message is set to ALL ZEROs (binary 0000).

Resume providing the update of NAC_P data and verify that the ADS-B Message contains a "NAC_P" subfield set equal to the corresponding binary coding values shown in the Table 2-44.